

### ABSTRACT

Orthogonal frequency division multiplexing (OFDM) has been specified by IEEE 802.11a standard as the transmission technique for high-rate wireless local area networks (WLANs). Performance of an OFDM system, however, is heavily degraded by random Wiener phase noise, which causes both common phase error (CPE) and inter-carrier interference (ICI). A method and algorithm is disclosed for efficiently eliminating the effect of phase noise in OFDM based WLANs.